

Probability Theory and Mathematical Statistics

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11-4-59

FISZ, M. (Warsaw)

Some non-parametric tests for the k-sample problem. Col math 7  
no.2:289-296 '60. (EEAI 10:1)

1. Mathematical Institute of the Polish Academy of Sciences.  
(Sampling (Statistics))  
(Distribution (Probability theory))



FISZ, M.

Remarks on the sample functions of some stochastic processes. Bul  
Ac Pol mat 8 no.6:355-358 '60. (EEAI 10:6)

1. Institute of Mathematics, Polish Academy of Sciences. Presented  
by H.Steinhaus.  
(Probabilities) (Functions) (Continuity)

EHRENFEUCHT, A.; FISZ, M.

A necessary and sufficient condition for the validity of the weak law of large numbers. Bul Ac Pol mat 8 no.9:583-585. '60.

1. Institute of Mathematics, Polish Academy of Sciences. Presented by E. Marczewski.

(Numbers, Theory of)

FISZDON, Wladyslaw

FISZDON, Wladyslaw: O pewnej metodzie obliczania amplitud drgan wymuszonych  
(A Certain Method of Calculation of the Amplitude of Constrained Vibrations).  
Warsaw: State Scientific Publications, 1954. 9 pages. Contains resume,  
summary, bibliography. Published from the PAN Research Laboratory of  
Mechanics of Continuous Media. Price 4 zl. (First Published in Rozprawy  
Inzynierskie, Vol. I, No. 9).

V3313. Fisrden, W., The use of the admittance method in calculating forced aircraft vibration amplitudes, taking into account internal damping (in Polish), *Arch. Bud. maszyn* 1, 2, 123-164, 1954. AN

POL.

The concept of the admittance method introduced by Carter as dynamic flexibility is better known now as the receptance method. The main advantage of the receptance method is that it permits complicated systems to be broken down into simpler parts. Until now the practical possibilities of the method have not been thoroughly explored. Mr. Fisrden extends the method to complex systems with internal damping.

In the first part he introduces the receptance by developing elementary vibration formulas. (The same results could be obtained by substituting  $1/q$  where  $q$  is receptance, instead of  $K$  for stiffness in well-known formulas.) Later he derives receptance formulas for flexible beams (for bending and torsion), assuming that internal damping is proportional to the velocity of the deformation; further, for a body suspended on four springs with damping, he calculates receptance of a complex system from the receptance of known elements.

With examples for various damping (0.025 to 0.3 of critical) of a flexible three-mass system (aircraft frame), he shows the influence of damping on forced vibration in this particular case. Aircraft vibrations can be reduced by larger damping in the frame and an engine suspension system which is softer and has larger internal damping.

This interesting study of theoretical and practical importance is concluded with a calculation of approximate receptance in complex cases by Galerkin and Lagrange methods.

A. L. Nasvytis, USA JAP LHM

FISZDON, Wladyslaw

A method of calculating the flow in a divergent nozzle with oscillating walls. Archiw mech 14 no.3/4:641-649 '62.

1. Division de Mecanique des Fluides, Institute des Problemes  
Fondamentals Techniques, Academie Polonaise des Sciences, Varsovie.

MISZTAL, F., prof. dr inż.; FISZDON, W., prof. dr inż.

The eightieth anniversary of the birth of Professor Bohdan Stefanowski. Archiw bud masz 10 no. 3: 215-218 '63.

1. Sekretarz Wydziału IV, Polska Akademia Nauk, Warszawa (for Misztal).
2. Dziekan Wydziału Mechanicznego Energetyki i Lotnictwa, Politechnika, Warszawa (for Fiszdon).

ENT(1)/ENP(m)/ENT(m)/T/PCS(k)/EWA(h) Pd-1/P1-4 AEDC(a)/SSD/SSD(b)/  
 ASD/AFWL/ASD(f)-3/ASD(p)-3/AFETR RM  
 P/1033/64/016/002/C.1/0241

AUTHOR: Fiezdor, W. (Warsaw)

TITLE: A simple qualitative estimate of the effect of oscillating pressure on the shape of a detached shock wave B

SOURCE: Archiwum mechaniki stosowanej, v. 16, no. 2, 1964, 237-241

TOPIC TAGS: qualitative estimate, effect, oscillating pressure, shock wave, detached shock wave, waveform

ABSTRACT: An attempt was made theoretically to estimate the effect of oscillating pressure at the surface of a simple blunt body on the oscillatory displacement of the shock wave. The simplified case of hypersonic Newtonian stationary flow in the stagnation region close to the axis of symmetry was considered. Formulas were derived for estimating the nondimensional time delay  $t_s$  required for a pressure disturbance on the body to reach the shock wave for two cases: that of plane flow over a circular section with pressure oscillations on the body surface being of the same amplitude and phase (also, the pulsations propagate radially for small angles  $\theta$ , where  $\theta$  is the

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angle between the normal to the shock wave and the direction of (unperturbed) flow) and of the three-dimensional flow conditions are under the assumptions of the plane case. Then, the time delays taken by a pressure pulsation to arrive at two positions given by  $\theta_1$  and  $\theta_2$  can be calculated. The results were illustrated by a calculation of the frequency of pressure oscillations between  $\theta_1 = 0^\circ$  and  $\theta_2 = 15^\circ$ . It is shown that the frequencies needed to produce a change of sign are high, especially in the case of plane flow, and increase very slowly at higher Mach numbers, but drop rapidly at lower Mach numbers. Recommended lines for further investigation are: study of lower velocities with assumptions giving closer approximations to real flow conditions in front of a blunt body, use of numerical methods in the above oscillatory cases, and study of the effect of oscillations on the subsonic region behind the shock wave on the supersonic region. Work in this field is being continued. Orig. art. has: 3 figures.

ASSOCIATION: Department of Fluids, IBTP, Polish Academy of Sciences

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FISZER, A.

Two decades. p. 434, (WIEDZA I ZYCIE, Vol. 21, No. 7, July 1954,  
Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5  
May 1955, Uncl.

FISZDON, W.

A simple qualitative estimation of the effect of oscillating pressure on the detached shock-wave shape. Archiw mech 16 no.2:237-241 '64.

1. Department of Liquids and Gases, Institute of Basic Technical Problems, Polish Academy of Sciences, Warsaw.

FISZER, B.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Organic Chemistry

*B. Fiszer and J. Michalski (Politech. Lodz, Poland). Roczniki Chem. 25, 514-15 (1951) (English summary).*—Tetraalkyl thiopyrophosphates of the thioanhydride type were prepd.: (A) by condensation of the corresponding dialkyl chlorophosphonates with salts of dialkyl thiophosphoric acids according to  $(RO)_2P(:O)SNa + Cl(O:)P(OR)_2 \rightarrow (RO)_2P(:O)S(O:)P(OR)_2 + NaCl$ , and (B) by action of  $H_2S$  on dialkyl chlorophosphonates in the presence of a tertiary base (e.g.  $C_4H_9N$ ) according to  $2(RO)_2P(:O)Cl + H_2S + 2C_4H_9N \rightarrow (RO)_2P(:O)S(O:)P(OR)_2 + 2C_4H_9N.HCl$ . The following thio-  
pyrophosphates were prepd.: *tetra-Et*,  $b.p. 120-2^\circ$ , (74%), *tetra-iso-Pr*,  $b.p. 82-4^\circ$  (66%), *tetra-Bu*,  $b.p. 112-14^\circ$  (72%), and *tetra-iso-Bu*,  $b.p. 96-8^\circ$  (72%). G. A. W.

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Flizer B., Michalski J., Wluczarkowski J. Organophosphorus Compounds of Sulfur and Selenium. I. Synthesis of Tetraalkylthiopyrophosphates.

"Fosfororganiczne pochodne siarki i selenu. I. Syntezy tiopiroforanów esteralkilowych". Roczniki Chemii (PAN), No. 4, 1953, pp. 462-463.

Two methods of preparation of tetraalkylthiopyrophosphates  $(RO)_4P_2S_2(OH)_2$  are described: 1) by condensation of the salts of O,O-dialkylthiophosphoric acids with dialkylchlorophosphates; 2) by action of hydrogen sulphide on dialkylchlorophosphates in the presence of tertiary amines. Tests were made of the toxicity of the compounds obtained and of their anticholinesterase activity.

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FISZER, B.

POL.

Organophosphorus compounds of sulfur and selenium. I.  
Synthesis of tetraalkyl thiopyrophosphates. Wojciech Fiszer, Jan Michalski, and Jan Wieroszkowski (Politech. Eds., Poland). Roczniki Chem. 27, 482-93 (1953) (English summary).—Tetraalkyl thiopyrophosphates,  $(RO)_2P(O)SP(O)(OR)_2$ , may be prepd. by: (1).—condensation of Na  $O,O$ -dialkylthiophosphates with dialkyl chlorophosphates or (2).—action of  $H_2S$  on dialkyl chlorophosphates in the presence of tertiary amines. Toxicity and anticholinesterase activity of the products were studied. Dialkyl chlorophosphates were prepd. using the method described previously (cf. C.A. 49, 2306c). Na  $O,O$ -dialkylthiophosphates were obtained by adding 0.25 mole powd. S in small portions with stirring and outside cooling to a mixt. of 0.2 mole Na dissolved in 60 ml. dry ROH and 0.21 mole dialkyl phosphite in 30 ml. dry  $Et_2O$ . Stirring was continued after all the S was added until the mixt. warmed up to room temp. The excess S was filtered and the filtrate was evapd. under reduced pressure at room temp. The cryst. product was washed 3 times with  $Et_2O$  and evapd. each time. Di-Et phosphite gave 88% yield (based on Na) crude  $(EtO)_2P(O)SNa$  (I), m. 188° (m. 203° (from  $CHCl_3-Et_2O$ )). Crude I was used in further syntheses.  $(EtO)_2POCl$  (II). Crude I (0.125 mole) added dropwise with vigorous stirring to a refluxing mixt. of 24 g. (0.125 mole) powd. dry I and 120 ml. anhyd.  $Et_2O$ , refluxed for 30 min., dild. with 100 ml.  $C_6H_6$ , washed successively with: 100 ml. water contg. a few drops pyridine, 50 ml. 1%  $HCl$ , 50 ml. water, 50 ml. 5%  $NaHCO_3$ , and 50 ml. water, dried with  $Na_2SO_4$  and distd. twice gave 20 g. (65%)  $(EtO)_2P(O)SP(O)(OEt)_2$  (III), b.p. 120-2°, d. = 1.1855,  $n_D^{20}$  = 1.4490. Similarly,  $(MeO)_2$



## BERNARD FISZER

$P(O)Na$  (IV) and  $(MeO)_2POCl$  gave 21%  $(MeO)_2P(O)ST$ .  $(O)Me_2$  (V), yellow liquid, b. 123-30° (decompos. slightly),  $b_m$  62-6° (bath at 100°),  $d_4$  = 1.3340,  $n_D^{20}$  = 1.4519. IV and II gave 60%  $(MeO)_2P(O)SP(O)Me_2$  (VI), colorless liquid,  $b_m$  116°,  $d_4$  = 1.2530,  $n_D^{20}$  = 1.4109. I and  $(BuO)_2POCl$  gave 57 g. crude product which in a mol. distn. (at 0.001 mm., condenser at 20 mm. from liquid surface, distg. at 5 drops/min.) gave the following fractions: (1).—0 g., temp. of liquid 50-88°,  $n_D^{20}$  = 1.4393; (2).—13.5 g., temp. of liquid 83°,  $n_D^{20}$  = 1.4471, 16.8% P (calcd. for  $(BuO)_2P(O)SP(O)Me_2$  17.1% P); (3).—27.5 g., temp. of liquid 97°,  $n_D^{20}$  = 1.4415, 14.5% P; (4).—2.5 g., temp. of liquid 117°,  $n_D^{20}$  = 1.4340. I and  $(PrO)_2POCl$  (VII) gave 77%  $(PrO)_2P(O)SP(O)Me_2$ , colorless liquid,  $b_m$  103.5°,  $d_4$  = 1.1347,  $n_D^{20}$  = 1.4429. II (34.5 g., 0.2 mole) was added dropwise with stirring at 10-15° to 70 ml. dry pyridine and a strong stream of  $H_2S$  was passed through the stirred and cooled mixt. for 90 min. The pptd.  $C_4H_9N.HCl$  was filtered and washed twice with 75 ml.  $C_6H_6$ . The combined filtrates were distd. under reduced pressure and the residue taken up in 100 ml.  $C_6H_6$ , washed successively with 30 ml. 2%  $HCl$ , 30 ml. water, 30 ml. 5%  $NaHCO_3$ , and 30 ml. water, dried with  $Na_2SO_4$ , and distd. twice gave 22 g. (74%) III,  $b_m$  82-4°. An 85% yield of III was obtained when *N*-methylmorpholine (dild. with  $C_6H_6$ ) was used instead of pyridine. Similarly, VII and  $H_2S$  in pyridine gave 67%  $(PrO)_2P(O)SP(O)Me_2$  (VIII), colorless liquid,  $b_m$  94-5°,  $d_4$  = 1.1075,  $n_D^{20}$  = 1.4363;  $(iso-PrO)_2POCl$  gave 70%  $(iso-PrO)_2P(O)SP(O)Me_2$  (IX), colorless liquid,  $b_m$  82-4°,  $d_4$  = 1.0885,  $n_D^{20}$  = 1.4370;  $(BuO)_2POCl$  gave 73%  $(BuO)_2P(O)SP(O)Me_2$  (X), yellow liquid,  $b_m$  112-14°,  $d_4$  = 1.0374,  $n_D^{20}$  = 1.4517;  $(iso-BuO)_2POCl$  gave 72%

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# BERNARD FISZER

(*iso*-BuO)<sub>2</sub>P(O)SPO(OBu-410) (XI), colorless liquid, b.p. 93-94°, d<sub>4</sub><sup>20</sup> = 1.0483, n<sub>D</sub><sup>20</sup> = 1.4463; (MeO)<sub>2</sub>POCl (below 5°) gave a sirupy, malodorous liquid, insol. in org. solvents, sol. in water. Et<sub>3</sub>N (0.25 mole) added dropwise to 0.2 mole di-Et phosphite and 0.5 mole CCl<sub>4</sub> and treated with Et<sub>3</sub>S with stirring at 5-10° for 3 hrs. gave 85% III. All boiling points are uncor. Tetraalkyl thiopyrophosphates are insecticides. The following doses (in g./kg. wt. of animal) were fatal to mice and rats when injected intramuscularly: III, 0.00065; V and X, 0.00035; VI, 0.001; VIII, 0.0025; IX and XI, 0.05. All compds. stopped cholinesterase activity in rat brain, III being the most active and approaching parathion in effectiveness. J. R. Soencer...

FISZLER, BERNARD

POL.

Synthesis of  $\alpha,\beta$ -unsaturated compounds based on phosphonoacetic ester and its analogs. Addition of phosphonoacetic ester, alkylated phosphonoacetic esters, and phosphonoacetic nitrile to  $\alpha,\beta$ -unsaturated esters and nitriles. Bernard Fiszler and Leo Michalski (Higher Polytech. School, 1972, Poland). *Abstracts Chem.* 28, 184-90 (1975) (English summary). -- (EtO)<sub>2</sub>P(O)CH<sub>2</sub>CO<sub>2</sub>Et (I), (EtO)<sub>2</sub>P(O)CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Et (II), and alkylated I (III) in the presence of alk. catalysts undergo Michael condensation with  $\alpha,\beta$ -unsatd. esters and nitriles at 20-80° in C<sub>6</sub>H<sub>6</sub> or PhMe (less satisfactory results are obtained in alc. soln.). III are less reactive than I or II while the order of decreasing reactivity of  $\alpha,\beta$ -unsatd. compounds (IV) is: acrylates > crotonates, methacrylates > PhCH=CHCO<sub>2</sub>Et (V). Condensation of active reagents (e.g., I with CH<sub>2</sub>=CHCN (VI) or CH<sub>2</sub>=CHCO<sub>2</sub>Me (VII)) is exothermic, requires small amts. of catalyst, and yields a mixt. of mono- and disubstituted derivs. Condensation of a reactive P compd. with less reactive IV requires heating, more catalyst and can be stopped at the first stage, while the poorly reactive compounds do not condense even under drastic conditions due to steric hindrance. A mechanism of condensation is given. To 23 g. Na finely dispersed in 400 ml. dry xylene was added with cooling and stirring (Hg-sealed stirrer) 138 g. HP(O)(OEt)<sub>2</sub> (VIII), followed by 150 g. ClCH<sub>2</sub>CO<sub>2</sub>Et (IX), the mixt. heated 5 hrs. on the bath at 60°, NaCl centrifuged off, the xylene removed, and the residue distl.

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to pass through a 100-150 mesh column, yielding 150 g.  $(EtO)_2P(O)CH_2CO_2Et$  (X),  $b_p$  157-58°,  $n_D^{20}$  1.4305 (all bps. and mps. uncorr.). X was added with stirring (vigorous stirring) to a mixt. of 15 g. K in 200 ml. xylene (exothermic reaction, the mixt. cooled and to it was added 47 g.  $BuBr$ , the ppt. filtered off, the filtrate washed with 1%  $HCl$ ,  $H_2O$ , 5%  $NaHCO_3$ , and  $H_2O$ , the xylene layer dried over  $CaH_2$ , the xylene removed, and the residue distd. as above, yielding 62 g.  $(EtO)_2P(O)CHBuCO_2Et$  (XI),  $b_p$  121-2°,  $n_D^{20}$  1.4385.  $P(OEt)_3$  (XII) (49 g.) and 58 g.  $EtCHBrCO_2Et$  were refluxed 4 hrs. on the oil bath at 105° and the mixt. was distd. as above, yielding 52 g.  $(EtO)_2P(O)CHBrCO_2Et$ ,  $b_p$  152-4°,  $n_D^{20}$  1.4290. To the suspension of 9.2 g. Na in 200 ml. xylene was added 55.2 g. VIII, followed by 50 g.  $MeCHBrCO_2Et$ , the mixt. refluxed 3 hrs. at 60°, the ppt. filtered off, and the reaction product worked up as above, yielding 55 g.  $(EtO)_2P(O)CHMeCO_2Et$ ,  $b_p$  150-1°,  $n_D^{20}$  1.4282. XII (88.3 g.) and 40 g.  $ClCH_2CN$  were refluxed 4 hrs. in the oil bath at 105-70°.

and the mixt. was distd. as above, yielding 71 g. II, b.p. 124-8°,  $n_D^{20}$  1.4370. VI (15.9 g.) was added (stirring, CaCl<sub>2</sub> tube) to a mixt. of 100 ml. C<sub>6</sub>H<sub>6</sub>, 0.69 g. Na, and 167.2 g. X kept at 25° (ice-water cooling), the mixt. heated 2 hrs. at 65°, cooled, neutralized with AcOH, washed with water, NaHCO<sub>3</sub> soln., and again water, dried over Na<sub>2</sub>SO<sub>4</sub>, the solvent removed, and the residue distd. in vacuo (procedure A), yielding the following fractions: Unchanged X (18 g.), b.p. 74-96°; (EtO)<sub>2</sub>P(O)CH(CH<sub>2</sub>CH<sub>2</sub>CN)CO<sub>2</sub>Et (35 g.), b.p. 100-20°; 33 g. after redistn., b.p. 112-17°,  $n_D^{20}$  1.4470, d<sub>4</sub> 1.1463, and (EtO)<sub>2</sub>P(O)C(CH<sub>2</sub>CH<sub>2</sub>CN)CO<sub>2</sub>Et (XIII) (19 g.), b.p. 118-60°. X (67.2 g.) was added (stirring, CaCl<sub>2</sub> tube) to 100 ml. dry C<sub>6</sub>H<sub>6</sub> and 2.5 g. K (highly exothermic reaction), the mixt. cooled to room temp. and to it was added 31.8 g. VI at 45-50° (ice-water cooling), the mixt. then heated 3 hrs. at 60°, left 12 hrs. at room temp., and worked up as in A, yielding 68 g. XIII (procedure B), b.p. 145-7°,  $n_D^{20}$  1.4630, d<sub>4</sub> 1.1461. X (50% excess) treated with VII by procedure A, yielding 57% (EtO)<sub>2</sub>P(O)CH(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)CO<sub>2</sub>Et, b.p. 90°,  $n_D^{20}$  1.4448, d<sub>4</sub> 1.1468. (EtO)<sub>2</sub>P(O)C(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)CO<sub>2</sub>Et was prepd. in 67% yield by procedure B, using 25% excess VII, b.p. 126-0°,  $n_D^{20}$  1.4568, d<sub>4</sub> 1.1684. (EtO)<sub>2</sub>P(O)CH(CHMeCH<sub>2</sub>CO<sub>2</sub>Et)CO<sub>2</sub>Et (XIV) was prepd. in 66% yield

from  $\text{CH}_3\text{Me}:\text{CHCO}_2\text{Et}$ , a stoichiometric amt. of  $\text{K}_2$  and 20% excess  $\text{X}$ , using procedure A (negligible heat effect),  $b_{\text{p}}$  98°,  $n_D^{20}$  1.4456,  $d_4^{20}$  1.1092.  $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CH}_2\text{Ph})\text{CH}_2\text{CO}_2\text{Et}$  prep'd. in 50% yield from  $\text{X}$  and  $\text{V}$  under the same conditions as XIV,  $b_{\text{p}}$  138°,  $n_D^{20}$  1.4878,  $d_4^{20}$  1.1397.  $(\text{EtO})_2\text{P}(\text{O})\text{C}(\text{Bu})(\text{CH}_2\text{CH}_2\text{CN})\text{CO}_2\text{Et}$  (XV) was prep'd. in 73% yield from XI and VI (procedure A), using 0.1 mole  $\text{K}$  per mole of XI,  $b_{\text{p}}$  110-18°,  $n_D^{20}$  1.4512,  $d_4^{20}$  1.0631.  $(\text{EtO})_2\text{P}(\text{O})\text{C}(\text{Bu})(\text{CH}_2\text{CH}_2\text{CO}_2\text{Me})\text{CO}_2\text{Et}$  was prep'd. in 73% yield from XI and VII, using procedure analogous to XV,  $b_{\text{p}}$  117-19°,  $n_D^{20}$  1.4526,  $d_4^{20}$  1.0673.  $(\text{EtO})_2\text{P}(\text{O})\text{C}(\text{CH}_2\text{CH}_2\text{CN})_2$  was prep'd. from II and VI (procedure B). The crude product after the removal of the solvent was crystd. from  $\text{CCl}_4$  and ether, yield 80%; colorless needles, m. 73.5-1°, easily sol. in  $\text{CH}_2\text{Cl}_2$ , alc., difficulty in water, and petr. ether.

Adam Sporzynski

POLAND

PISZOR, Bernard, of the Department of Organic Chemistry, Institute of Technology (Katedra Chemii Organicznej, Politechnika, Lodz), in Lodz.

"Organophosphorus Compounds with an Active Methylene Group. Part V. Thermal Decomposition of Diethoxyphosphinylacetic Acid."

Warsaw, Roczniki Chemii, Vol 37, No 9, 1963, pp 949-954.

Abstract: [English article, author's summary modified] Investigation of thermal decomposition of diethoxyphosphinylacetic acid is described. It was found that the reaction follows two parallel directions, namely, decarboxylation and dealkylation. The latter is caused by the presence of carboxylic groups. No thermal decomposition of  $\alpha$ -dihydroxyphosphinylglutaric and dibenzylphosphinylacetic acids occurs under similar conditions. Ten references, including 1 Polish, 2 Russian, and 7 Western.

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POLAND / Chemical Technology. Chemical Products and H-5  
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Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 78129.

Author : Piszor, Jozef.

Inst : Not given.

Title : Project of Experimental Station at The Town of  
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Orig Pub: Gaz, woda i techn. sanit., 1958, 32, No 2, 54-56.

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"An Attempt at Evaluating the Principal Transformation Products of  $1,6^{14}\text{C}$  Glucose in Raw Smoked Meat"

Lublin, Medycyna Weterynaryjna, Vol 22, No 8, 1966, pp 488-495.

Abstract: The transformation products of labeled  $1,9^{14}\text{C}$  glucose in raw smoked meats were studied in four series comprising 32 samples each during 6 production days and 60 post-production storage days. Radioactivity of  $\text{CO}_2$  combined in  $\text{Ba}^{14}\text{CO}_3$  after evolution from the meat was then determined. It was determined that fermentation of glucose in raw smoked meats is of the hetero type, and that it takes place only during production. Contains 6 tables and 15 references (6 Polish, 4 Western, 1 Russian and 4 German-language).

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85 no. 43:1,11 25 0 '64.

1. Central Office of Educational Methods, Ministry of  
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ACC NR: AM7004071

Mongraph

UR/

Kovalenko, Boris Mikhaylovich; Fit, Eduard Aleksandrovich

Digital equipment for automating the petroleum industry (Tsifrovyye ustroystva dlya avtomatizatsii neftyanoy promyshlennosti) Moscow, Izd-vo "Nedra", 66. 0266 p. illus., biblio. 1,900 copies printed

TOPIC TAGS: analog digital conversion, digital system, petroleum industry, logic element, automation

PURPOSE AND COVERAGE: The book discusses the elements and devices of digital engineering, and the methods of converting continuous values into discrete values and vice versa, and presents the principles of coding. Special codes which eliminate errors in the conversion of continuous values into discrete values, and the algorithms and circuits used in data processing in relation to specific matters pertaining to the petroleum and petrochemical industries are reviewed. The potentialities of digital devices shown by specific examples. Simplified algorithms and processing systems for digital data are presented. The book is intended for engineering and technical personnel dealing with problems of application of digital engineering in the petroleum and petro-

Card 1/2

UDC: 622.32:682.142.32.002.5

ACC NR: AM7004071

chemical industry, and may be useful to students attending courses in automation and digital and measuring engineering at Schools of Higher Education of Petroleum Processing. The authors express their gratitude to L. B. Kublanovskiy, Candidate of Technical Sciences, for reviewing the book and for his advice.

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- Ch. 2. Logical elements and units of digital engineering -- 64
- Ch. 3. Basic circuits and devices used in converters -- 121
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SUB CODE: 09/ SUBM DATE: 28Apr66/ ORIG REF: 036/ OTH REF: 006

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no. 44:7-8 '59.

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(Boilers) (Fire clay)

MINI/Pharmacology. Toxicology. Chemotherapeutic Preparations  
A) Antibiotics

Abstr Jour : Ref Zhur - Biol., No II, 1958, No 3206

Author : Basila V.T., Pop O., Vasilescu I., Cravaceschi V., Popian  
R., Pitareu A.

Inst : -

Title : The Dynamics of Immunological Indices in Patients with  
Typhoid Fever, Treated with Chloramphenicol.

Orig Pub : Rev. microbiol., parasitol., et epidemiol., 1956, 1, No 1,  
35-42

Abstract : Results of observation of 34 patients with typhoid fever  
were described; the dynamics of agglutinins anti-O, H, Vi,  
and blood changes associated with chloramphenicol therapy  
(I) were studied. It was established that in I therapy  
the agglutinins anti-O have a lower titer or disappear com-  
pletely. Later therapy with I has no effect on the appear-  
ance and dynamics of agglutinins. Agglutinins anti-Vi  
appear in 91 percent of the patients; in 5.8 percent of the

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cases during the first 2 weeks, in 24.4 percent of the cases -  
during the fourth week; in the remaining cases - between the  
second and fifth months. Absence of anti-Vi agglutinins  
among patients with relapse was observed before the relapse  
in 74.4 percent of the cases; a decrease of their titer or  
their disappearance - in 11.1 percent of the cases. The  
appearance of eosinophiles and a lymphocytic reaction ac-  
companied the appearance of anti-Vi agglutinins, or follow-  
ed it directly. Thus - the post-infection immunity takes  
place also after I therapy, but it is established later.  
Vaccination with triple vaccine is useful for prevention of  
relapses and acceleration of immunity.--E.M. Shynbaum.

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Abs Jour

: Ref Zhur Biol., No 5, 1959, 21530

Author

: Corondan, Gh., Kun. Gh., Fitarau, V., Rottenberg, N., Birzu, St., Elias, St., Floreanu, M.

Inst Title

: Investigation of Tinctorial Reactions of the Fibrillar Bone Structure

Orig Pub

: Morfol. normala si patol., 1958, 3, No 1, 61-68

Abstract

: It has been shown in bone preparations decalcified with strong  $\text{HNO}_3$  containing formalin that the principal fibrillar network is stained with aniline blue (Mallory), is demonstrated by the Halle reaction, is not impregnated with silver, and is isotropic. Certain fibrillar lamellae give reactions of the basic type; others are fuchsinophilic, notably argentophilic, and are very weakly demonstrated by the Halle reaction, and are double refractile. The authors

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Distr: 4E3c 2 cys

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T. Dumitrescu

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BADANOIU, M.; FITI, M.; MANTESCU, C.

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1. Institutul de fizica atomica al Academiei R.P.R., Bucuresti.  
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Determination of boron in ores through the registration of particles  
in the reaction  $B^{10} (n, \alpha) Li^7$ . Studii cerc fiz 11 no.2:423-430 '60.

(Ores) (Boron) (Lithium) (Neutrons)  
(Nuclear counters) (Alpha rays)

(EEAI 10:1)

MANDESCU, D.; FITI, M.

Measuring tritium and carbon-14 in the gaseous state. Studiul cerc  
fiz 11 no.3:788-798 '60. (EEAI 10:2)  
(Tritium) (Carbon) (Radioisotopes)  
(Counters (Electrons, ions, etc.) (Gases)



S/081/62/000/023/012/120  
B149/B186

AUTHOR: Fiti, Maria

TITLE: Study of the nature of active surfaces of solid catalysts.  
I. Active surface of  $\text{Cr}_2\text{O}_3$  and  $\text{NiO}$  according to radiochemical data

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 86, abstract 23B629 (Studii și cecetări fiz. Acad. RPR, v. 12, no. 2, 1961, 357 - 369 [Rum.; summaries in Russ. and French])

TEXT: The properties of the active surface of  $\text{Cr}_2\text{O}_3$  and  $\text{NiO}$  were studied by chemisorption of  $\text{CO}_2$ , by the course of isotope exchange  $\text{C}^{14}\text{O}_2(\text{ads.}) + \text{CO}_2(\text{gas}) \rightleftharpoons \text{C}^{14}\text{O}_2(\text{gas}) + \text{CO}_2(\text{ads.})$ , and by the differential isotope method. The changes in the active surface of these catalysts under the action of  $\text{Co}^{60}\gamma$ -radiation were investigated. [Abstracter's note: Complete translation.]

Card 1/1

FITI, Maria; GAINAR, I.; GHERGHESCU, Ileana; GIRD, E.

Possibility of applying ion exchangers in the catalytic reaction of acetylene hydration. Studii cerc chimie 10 no.2:243-249 '62.

1. Institutul de fizica atomica, Bucuresti.

FITI, Maria

Radiolysis of acetylene in solution. Pt.1. Rev chimie Roum  
9 no.6//7451-461 Je-Jl '64

1. Laboratory of Radiochemistry, Institute of Atomic Physics,  
P.O. Box 35.

FITI, M.

Radiolysis of acetylene in solution. Pt.1. Studii cerc chim  
13 no.6/7:459-468 Je-Jl '64

1. Laboratory of Radiochemistry, Institute of Atomic Physics,  
P.O. Box 35.

Fitil'eva, S. Ya.

28(2)

PHASE I BOOK EXPLOITATION

SOV/2146

Leningrad. Universitet

Materialy po mashinnomu perevodu; sbornik 1 (Materials on Machine Translation; Collection of Articles Nr 1) Leningrad, Izd-vo Leningn univ., 1958. 228 p. 1,000 copies printed.

No contributors mentioned.

PURPOSE: The book is for students, scientists, and engineers interested in machine translation.

COVERAGE: This collection of 15 articles is published as volume I of the Materials on Machine Translation. It represents the work of 25 Soviet scientists at the Leningrad University Experimental Laboratory for Machine Translation which was created in March 1958 to continue research on translating with the aid of electronic machines. Although the present volume deals with both the theoretical and the practical aspect of machine translating, the emphasis is on the compilation of algorithms for a number of lan-

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Materials on Machine Translation (Cont.)

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guages, many of them Asiatic. There are no references.

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- Andreyev, N.D., D.A. Batova, V.S. Panfilov, and V.M. Petrova, Elements of an Independent Analysis of Vietnamese-Russian Algorithms 191
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Card 4/4

TM/bg  
9-15-59



FITIALOV, S.Ya.

Language for nonalgebraic algorithms. NTI no.4:30-34 '63.  
(MIRA 16:10)

FITILEV, B.V.; RUTES, V.S.

Widespread introduction of the continuous pouring of steel is a  
work of great economic significance. Stal' 23 no.9:769-772 S  
'63. (MIRA 16:10)

OTKUPSHCHIKOVA, M.I.; FITIALOV, S.Ya.

System of morphological synthesis of the Russian language. NTI  
no.1:39-46 '64. (MIRA 17:3)

EWI(d)/RYT/SED-2/EMI(1) Fo-L/Fq-L/Fg-L/Fk-L 10/10/1964 a 10/10/1964  
 RECEPTION NR: AP4049560 S/0315/64/000/00 10039/0046

AUTHOR: Otkupshchikova, M. I.; Fitialov, S. Ya.

TITLE: A system of morphological synthesis for the Russian language

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 1, 1964, 39-46

TOPIC TAGS: algorithm, machine translation, morphological synthesis, linguistics

ABSTRACT: The paper considers a morphological synthesis of the Russian language, which is necessary for machine translation of English into Russian. It is pointed out that the Russian language must take into account the morphological and syntactic structure of words, as well as the linear arrangement of word forms in a text. The algorithm for the alphabetical word form synthesis is described. The algorithm for making such a synthesis is described. It is noted that the machine dictionary, used in machine translation, and basically allows determination of a word in its dictionary to which a text refers, as well as determination of the correct word form in context. The present paper describes a computer program for implementing the morphological synthesis of the Russian language.

ASSOCIATION: none

Card 1/2

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ACCESSION NR: AP4949560

SUBMITTED: 01Aug63

ENCL: 00

SUB CODE: 0P

NO REF SOV: 000

OTHER: 000

Card 2/2

EWI(d)/BIT/EED-2/EWP(1) P<sub>R</sub>-1<sub>1</sub>/P<sub>k</sub>-1<sub>1</sub>/P<sub>Q</sub>-1<sub>1</sub>/P<sub>r</sub>-1<sub>1</sub> I/F/0 Z/00

ACCESSION NR: AP5000881

S:0015 64 000 007/0030/0036

AUTHOR: Fitalov, S. Ya.

TITLE: Two types of calculation

β

SOURCE: Nauchno-tehnicheskaya informatsiya, no. 7, 1964, 30-36

TOPIC TAGS: machine translation, phrase structure, grammar, language structure, linguistics, calculus theory 166

ABSTRACT: Two classes of grammatical calculations are studied: direct calculation of the components used in machine translation, and so-called parenthetical calculations. It is shown that for any phrase structure grammar there exists a corresponding abstract equivalent parenthetical calculation. The conditions for the equivalence of two phrase structures or languages associated with the process of calculation are presented. The algorithm for the calculation of components is presented. The algorithm for the calculation of components is presented in determinate form. The thesis is proved that the calculation of components is done by N. Kromskiy and deals with an essential problem in the theory of calculations. The following theorem is proved: I Class P-calculations and simple calculations over type P; II Type C is not equivalent to type P; III Class P-calculations and simple

Card 1/2

L 22528-65

ACCESSION NR: AP6000881

C-calculations are equivalent. Orig. art. has: numerous formulas.

ASSOCIATION: none

Card 2/2

L 12906-66 EWT(d)/BXT/T/EWP(1) IJP(c) BB/GG

ACC NR: AR5023490

SOURCE CODE: UR/0372/65/000/001/VO47/VO47

SOURCE: Ref. zh. Kibernetika, Abs. 7V340

AUTHOR: <sup>44</sup>Fitialov, S. Ya.

13  
B

TITLE: Transformation in axiomatic grammars

CITED SOURCE: Sb. Transformats. metod v strukturn. lingvist. M., Nauka, 1964, 3-11

TOPIC TAGS: cybernetics, machine translation, computer, linguistics

TRANSLATION: A classification of language models is proposed and the question on the place of transformations in various types of models is investigated. Three types of models are proposed for the study: 1) models of a concrete language<sup>66,47</sup> process; 2) models for studying theories of grammatical classes for concrete or intuitively understood models of type (1); 3) models for generating and studying sets of models of type (2). Under such classification the models of M. Khomskiy (RZhMat, 1959, 9578) are related to type (2), and the model proposed by O. S. Kulagina (Problemy kibernetiki, 1, pp. 203-214, M. Fizmatgiz, 1958) is related to type (3). It is noted that the author is not aware of any sufficiently complete models of type (1) for natural languages. Emphasis is placed on the necessity for distinguishing between concrete models of a language and formal computations defining classes of grammatical models. Ye. Stotskaya

SUB CODE: 09/  
Card 1/1 HUN

UDC: 801:51



FITILEV, B.V.; GUBERT, S.V.; OSIPOV, A.I.

Prospects for expanding the continuous casting of steel. Stal'  
23 no.10:889-892 0 '63. (MIRA 16:11)

1. Gosudarstvennyy komitet po chernoy i tsvetnoy metallurgii pri  
Gosplane SSSR, Gosudarstvennyy soyuznyy institut po proyektiro-  
vaniyu metallurgicheskikh zavodov i Tsentral'nyy nauchno-issledo-  
vatel'skiy institut chernoy metallurgii.

Fitileva, L. M.

Fitileva, L. M. -- "Influence of a Therapeutic Diet on the Functional State of the Kidneys in Patients with Hypertensive Disease." Second Moscow State Med Inst imeni I. V. Stalin, Moscow, 1955 (Dissertation for the Degree of Candidate of Veterinary Sciences)

SO: Knizhnaya Letopis', No. 24, Moscow, Jun 55, pp 91-104

GEL'SHTEYN, G.G. (Moskva, Leninskiy prospekt, 8, kv. 18); FITILEVA, L.M.

Some auscultative and phonocardiographic data in mitral stenosis.  
Grud.khir. 1 no.1:31-41 Ja-P '59. (MIRA 13:6)

1. Iz laboratorii elektrokardiografii i fonokardiografii Instituta grudnoy khirurgii AMN SSSR (dir. - prof. A.A. Busalov, nauchnyy rukovoditel' - akad. A.N. Bakulev).  
(MITRAL VALVE--DISEASES)

GEL'SHTEYN, G.G.; FITILEVA, L.M. (Moscow)

Some auscultative and phonocardiographic data in mitral stenosis.  
Terap.arkh. 31 no.4:55-62 Ap '59. (MIRA 14:5)

1. Iz laboratorii elektrokardiografii Instituta grudnoy khirurgii  
AMN SSSR (dir. - akademik A.N.Bakulev).  
(MITRAL VALVE—DISEASES) (HEART—SOUNDS)